

REMARKS

Claim 1-7 are pending and stand rejected. Specifically, the Examiner rejects claim 1-7 for allegedly failing to comply with the written description requirements. The Examiner also rejects claims 1 and 4-6 as allegedly obvious over WO 02-07902 to *Dupart et al.* ("*Dupart*"), in view of Japanese Patent No. JP 8-983 (*JP-983*) and further in view of Patent No. 5,704,995 to *Bradley*. Finally, claims 2-3 and 7 stand rejected as allegedly unpatentable over *Dupart*, in view of *JP-983* and *Bradley* and further in view of U.S. Patent No. 4,243,434 to *Hartley*. For the reasons that follow, the rejections should be reconsidered and withdrawn.

Rejection under § 112, First Paragraph

The Examiner rejects the claimed recitation of "transparent conversion coating" for allegedly lacking written description. The rejection should be reconsidered and withdrawn.

As the Examiner is well aware, the specification need not disclose *in haec verba* product characteristics that are inherent and implied. See MPEP § 2163. What is conventional or otherwise well known to one of ordinary skill in the art need not be disclosed in detail. See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).

Here, the specification discloses a conversion coating including "a solution of inorganic salt and organic acid which contains trivalent chromium and silica as main ingredients." See paragraph bridging pages 8 and 9. A solution containing inorganic salt, organic acid, trivalent chromium and silica is conventionally transparent. To this end, Applicant respectfully directs the Examiner to attached reference, Japanese Examined Patent Application Publication No. S42-14050, which concerns forming a transparent surface. The reference states that if chromic acid or silic acid sol ($\text{SiO}_2 = \text{silica}$) is overly concentrated or added, coloring or a strain is generated.

The explanation indicates that if the appropriate amount of chromic acid or silic acid sol is added, a coating can be obtained that does not have the coloring or the strains. Accordingly, the claimed solution would inherently be transparent and one of ordinary skill in the art would be aware of this fact.

Reconsideration and withdrawal of the § 112, First Paragraph, are respectfully requested.

Obviousness rejections in view of *Dupart*, JP-983 and Bradley

The Examiner alleges that *Dupart*, when combined with JP-983 disclose the claimed embodiments. The Examiner cites to Bradley and Hartley for allegedly providing motivation for the combination or additional steps. The obviousness rejections should be reconsidered and withdrawn.

Applicant's disclosure relates to a plating treatment system resulting in a transparent chromium layer covering a black chromium layer. Chromate coatings are applied as conversion coating to passivate substrates containing aluminum and zinc and to slow corrosion of the substrate. Conventional techniques include conversion coating with hexavalent chromium. Adverse toxicological and environmental effects of hexavalent chromium have caused the industry to seek less toxic alternatives. One such alternative is trivalent chromium. Trivalent chromium, however, does not inhibit oxidation as effectively as the hexavalent chromium. Applicant's disclosure addresses this deficiency by providing a unique combination of two trivalent chromate layers: a black chromate layer coated by a transparent chromate layer.

The references fail to disclose or suggest these two independent layers.

The Examiner acknowledges that *Dupart* does not disclose a transparent layer and cites to JP-983 for allegedly curing the deficiency. However, JP-983 does not disclose a transparent layer. JP-983 discloses a chromate treatment for zinc-coated steel with a solution containing

trivalent chromium, silica and phosphoric acid (H_3PO_4). Phosphoric acid is not transparent when combined with trivalent chromium and silica. In contrast, Applicant's second layer does not include phosphoric acid and is transparent as a result.

Moreover, a principal objective of *Dupart's* disclosure is "to achieve a unified black coating." However, the combination suggested by the Examiner will result in a bluish-yellow coating because the trivalent chromium, silica and phosphoric acid of *Dupart's* coating will react with iron and trivalent chromium of *JP-983*. More specifically, the iron in the chromate coating reacts with phosphoric acid in the transparent coating to form an iron phosphate coating. Applicant advises counsel that iron phosphate coating has a bluish-yellow appearance. Clearly, the bluish-yellow appearance is far from *Dupart's* stated objective of a "unified black coating."

The references to *Bradley* and *Hartley* fail to cure the above-discussed deficiencies.

Finally, Applicant's disclosure provides synergistic and unexpected results. By forming the transparent coating with the trivalent chromium solution (trivalent chromium and silica, excluding phosphate) on chromate coating (iron), the iron component in the chromate coating is transformed to a ferrous oxide. The chromate coating is stably blackened and protected. In other words, the chromate coating (trivalent chromium and iron) and the trivalent chromium solution (trivalent chromate and silica) are organically combined so that an unexpected synergistic result is obtained such that the chromate coating is both blackened and protected. The synergistic result is not disclosed nor obtained by combining the references of record.

Because the references fail to disclose or suggest each and every element of independent claims 1-2, 4 and 7, the obviousness rejection should be reconsidered and withdrawn. Claims 3 and 5-6 depend from an otherwise patentable independent claim and are deemed patentable at least by the virtue of this dependence. Accordingly, additional reasons for patentability of claims

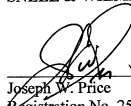
3 and 5-6 will not be proffered. Reconsideration and withdrawal of the obviousness rejection are respectfully requested.

Having addressed the rejections of the pending Office Action, Applicant respectfully submit that the application is now in condition for allowance and respectfully solicits a notice to this effect.

If any issues remain that can be readily resolved through a telephonic interview, the Examiner is kindly invited to contact the undersigned directly.

Very truly yours,

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